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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,714	05/14/2001	Kia Silverbrook	YU105US	9827

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SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER

ALANKO, ANITA KAREN

ART UNIT	PAPER NUMBER
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1765

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,714

Applicant(s)

SILVERBROOK ET AL.

Examiner

Anita K Alanko

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/112,806.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3 and 6 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Silverbrook (U.S. 6,126,846).

Silverbrook discloses a method comprising (Fig.17):

- providing a wafer (col.32, lines 45-46);
- depositing and etching a plurality of permanent layers on one side of the wafer to form an ink ejection mechanism (col. 32, line 65-col.33, line 51);
- anisotropically wet etching said wafer from said one side to form a nozzle chamber (col. 34, lines 60-67); and
- etching said wafer from an opposed side to form an ink supply channel in communication with the nozzle chamber for supplying ink to the nozzle chamber (col.33, lines 52-54).

Claims 1-3 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Wise (U.S. 5,989,445).

Wise discloses a method comprising (Fig.10):

- providing a wafer 101 (col.32, lines 45-46);

- depositing and etching a plurality of permanent layers on one side of the wafer to form an ink ejection mechanism 105 (col. 11, lines 46+);
- anisotropically wet etching said wafer from said one side to form a nozzle chamber 108 (col. 11, lines 52-53); and
- etching said wafer from an opposed side to form an ink supply channel 107 in communication with the nozzle chamber for supplying ink to the nozzle chamber (col.12, lines 7-12).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wise (U.S. 5,989,445) in view of Silverbrook (US 5,841,452).

The discussion of Wise from above is repeated here.

As to claims 4-5, Wise discloses to wet etch from the opposed side, not plasma etching. Examiner takes official notice that it is well known in the art to etch wafers with either wet etching or plasma etching, for example in semiconductor processing, and that it is well known to use either in the etching of a wafer. The advantages of choosing one over the other are well known depending on the application of the final device. Silverbrook teaches that it is a useful technique to plasma etch a wafer from the opposed side to form openings in a method for forming ink jet printheads (col.29, lines 37-40). It would have been obvious to one with ordinary skill in the art to plasma etch from the opposed side in the method of Wise because Silverbrook teaches that it is a useful technique for forming openings in wafers, and because it is conventional in the art to alternatively use wet or dry etching for forming openings in wafers.

As to claim 5, it would have been obvious to use an anisotropic etching in the modified method of Wise because Wise forms anisotropic openings.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K Alanko whose telephone number is 703-305-7708. The examiner can normally be reached on Monday-Friday, 10:00 am-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin L Utech can be reached on 703-308-3836. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9057 for regular communications and 703-872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Anita K. Alanko

Anita K Alanko
Primary Examiner
Art Unit 1765

AKA

January 25, 2003